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PERCEPTION OF LEADERSHIP IN SMALL GROUPS

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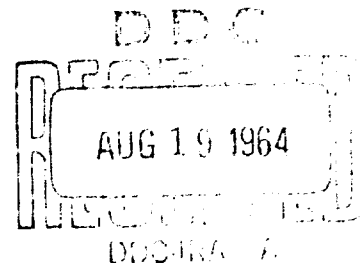
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Technical Report No. 9

A Rank Order Investigation of the Emergence
of the Leadership Role in Small Groups

July 1964

Hans E. Lee



Prepared for:

Group Psychology Branch
Office of Naval Research

Nonr-225(62)
NR 171 388

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Abstract

To study the process whereby small groups come to identify one of their members as a leader and to investigate whether such emergent leadership could be predicted from a knowledge of other variables, 49 groups of either 4 or 5 men were assembled to discuss a human relations case. Within each group, the rank order of the men on 42 psychological test variables, 6 observational and sociometric variables, and 6 peer rating variables was computed. The distribution of these ranks for each variable, for those subjects who received the highest rank in response to the sociometric question, "Which member of the group would you say stood out most definitely as leader in the discussion?" was contrasted with the distribution on the same variable for those subjects who received the lowest rank to the leadership question. Of the 42 test variables only the Masculinity-Femininity scale of the Strong Vocational Interest Blank showed a consistent relationship to the leadership ranking. There was a positive association in the 5 man groups between selection within the group as leader and the selection by a large number of his classmates in response to the peer rating question, "Which man on the class roster would you most like to have as your boss?" There was no such relation in the 4 man groups. The clearest reason that has been found to explain why men were designated as the leader was that they had a higher rate of interaction. Those who acted the most were the most likely to be judged to have been the leader.

Problem

The research reported in this paper was designed to answer the question, "Why does one man emerge as the leader in small discussion groups?" The analysis was carried out to ascertain whether or not such emergent leadership is associated with personality traits of the individual participants; with particular types of small group interaction; with sheer frequency of interaction or total activity; or with more global characteristics of personality as measured by responses to peer rating questions about desirability to have as a boss, emotional maturity, and friendliness.

Method

Small groups of men were formed to discuss a human relations case. Three distinct and independent types of data were collected in order to investigate the emergence of leadership in such groups. The first type consists of 42 psychological test variables, including scales on the Strong Vocational Interest Blank and the Minnesota Multiphasic Inventory. These have been listed in Technical Report No. 7, "Predictability of Small Group Leadership Criteria." (Harrell, T.W. and Lee, H.E., April 1964) There the relationship between these psychological test variables and seven criteria of small group leadership obtained directly from the group interaction was studied by multiple regression techniques. The analysis did not find any significant relationship between the criteria and the 42 possible predictors.

While the subjects participated in the case discussion, observers classified the interaction into three categories. These categories, Category A "Group Task Acts," Category B "Solidarity Acts" and Category C "Individual Prominence Acts" together with Total Activity, a category consisting of the sum of the number of acts coded in the 3 other categories, formed half of the small group data. The other half of the small group data includes three sociometric measures. These are rankings which each subject made of

the other subjects in the group after the group had reached its conclusion to the case problem. The ranking questions asked were: (a) Who contributed the best items for solving the problem? (b) Who did the most to guide the discussion and keep it moving effectively? and (c) Which member of the group would you say stood out most definitely as leader in the discussion? Technical Report No. 6, "An Investigation of the Product Moment Intercorrelations Among Small Group Leadership Criteria" (Harrell, T.W., Lee, H.E. and Burnham, L.E., May 1963) reported that the highest correlation among these two different sets of small group leadership criteria was between the observational variable of Total Activity and the sociometric question, "Which member of the group stood out most definitely as the leader in the discussion?" There was also reported a tendency for the differentiation of the role of task leader from the social-emotional leader. This is supported by the finding that the person who was seen by the non-participant observers to act the most was also seen by them to contribute more in the area of task accomplishment (Category A) than in the social-emotional area (Category B). Included in that report are copies of the data collection instruments.

Technical Report No. 2, "Correlation between Peer Ratings and Behavior Patterns" (Harrell, T.W., Lee, H.E. and Burnham, L.E., May 1963) introduced the peer rating data, the third type of variable studied. In that report the relations between the responses to two of six questions asked, (1) Which man in the group would you most like to have as your boss? (+ Boss) and (2) Which man would you least like to have as your boss? (- Boss) were studied by multiple regression. The report concluded that of the 44 variables examined (the same 42 psychological test variables as discussed in Technical Report No. 7 plus Imaginary Events and grade point average), the best and only stable predictor of the number of times a student is rated by his peers as desirable to have as a boss is that student's grade point average earned in

the two years of his graduate study in business.

The other four questions, not considered in the second technical report, are: (3) Which man in the group exhibits the greatest degree of emotional maturity? (+ Emotional Maturity), (4) Which man exhibits the least emotional maturity? (- Emotional Maturity), (5) Which man would you most like to have as a friend and associate? (+ Friend), and (6) Which man would you least like to have as a friend and associate? (- Friend). All six of these peer rating variables are used in the present report.

The peer ratings were collected from the entire graduating MBA class of a given year by distributing a roster listing all of the class members for whom the scores on all of the 42 psychological test variables were available. From this roster, each member of the class was requested to select a name to indicate his first, second, and third choice in response to each of these six questions. About 50 per cent of the distributed rating forms were returned. To convert these into the ranks used in the present study, each small group participant was first assigned a raw score weighted for first, second, or third choice. The number of times a man was selected for first choice, multiplied by 3 to weight the rating, plus the number of times he was selected for second choice, multiplied by 2, plus the number of times he was selected for third choice was obtained. Then the man in each small group with the highest such score was assigned a rank of 1, the next highest a rank of 2, and so on. The peer-ratings for the EDP groups was obtained by the same method.

The analyses of these three types of variables so far reported has been executed in such a manner as to minimize small group effects. For example, the product moment correlations between the 42 psychological test variables and the small group data were studied. This has the effect of equating a man who held the highest rank in one group on the sociometric leadership question with those men in other groups with the highest rank on leadership in their respective groups. However, what may be important in

leading to his selection by fellow group members for the leadership role may be his rank on the psychological test variables relative to the rank of the other members within his own group. The purpose of this report is to present the results of such a study based on the rank of subjects within their respective groups.

Male students in a two year program leading to the degree Master of Business Administration, (MBA), and managers who participated in a summer executive development program, (EDP), participated in human relations case discussions. The data reported here is based on 13 EDP groups of 5-men each, 15 MBA groups of 5-men each, and 21 MBA groups of 4-men each. The amount of consensus as to who was the leader among the participants in each group was examined. By defining a group as showing consensus when either all participants gave a rank of 1 to the same man in response to the sociometric leadership item or as all participants other than that leader's own ranking of himself, a basis for categorizing groups either into consensus or non-consensus groups was obtained. The MBA groups of 4-men showed consensus in who was leader in 13 of their 21 groups. Only 4 of the 15 MBA groups of size 5 could be classified as groups showing consensus, while for the EDP groups, all of size 5, only 2 showed consensus in their leadership ranking. The small number of groups exhibiting consensus did not permit a meaningful comparison of consensus groups with non-consensus ones. Consequently, the analysis was made on all of the groups and it ignored the fact that there was not complete consensus as to the choice of leader.

Within each group, the rank of the participants on each of the 42 psychological test variables, the 7 small group variables (observational and sociometric) and the 6 peer rating variables was obtained. Ties were resolved by rounding to the nearest integer. Thus, each man's standing within his group could be represented by one of the numbers 1, 2, 3, 4, and for the five man group, 5, for each variable considered. The ranks from the EDP groups (all of 5 men each) formed one set of data. Those

from the 4-man MBA groups a second set of data, while those from the 5-man MBA groups formed the third and final set. Each set was analyzed separately.

The rank a man received in response to the sociometric question, "Which member of the group would you say stood out most definitely as leader in the discussion?" served as the criterion of small group leadership. All subjects in a set were sorted on the basis of their assigned rank to this question. Then the distribution of the ranks on each of the other variables for all men who ranked 1 on leadership, for all men who ranked 2 on leadership, and so on, were obtained.

Results

The distributions of the ranks on the small groups data, the observational categories and the sociometric data, show a high association as may be seen in Tables 1, 2, and 3. Especially marked is the positive relationship between the rank on the sociometric question on group guidance and the leadership criteria. However, these variables were all based on the same interaction in the small group.

When the distribution of the ranks on the 42 psychological test variables was examined, it was found that for the MBA groups of 4 participants there was no marked contrast between men ranked as 1 and those ranked as 4. The distribution for a selected number of the 42 variables appears in Tables 1, 2, and 3. The basis of selection was that in at least one of the three data sets, EDP, MBA 4-man groups, or MBA 5-man groups, there was a trend of either increasing or decreasing along with the increasing rank on leadership. Applying this principle led to the selection of eleven of the psychological variables. The distributions on these eleven variables show no marked association between the rank on the psychological variables and the leadership rank. Of these eleven variables, the one showing a fairly consistent pattern in each of the three data sets is the Masculinity-Femininity Scale of the Strong Vocational Interest Blank. The distribution of the ranks as reported in Tables 1, 2, and 3 indicate that the more a

man is seen as a group leader the higher he ranks on this scale. Similarly, the less he is seen as leader the lower his rank on the MF scale.

The peer ratings, which, for the MBA groups were collected about 20 months subsequent to the small group participation, yield positive and hence more interesting results. Although the number of subjects for whom ratings were available for the MBA groups was small, the 5-man groups show an association of leadership with desirable to have as a boss, with exhibiting emotional maturity and with would like to have as a friend. The data for 4-man groups does not exhibit these trends evident in the 5-man groups. The time lapse for the EDP groups between peer ratings and small group participation was only a few weeks; and here, too, the rating desirable to have as a boss is associated with the leadership criteria. The emotional maturity and friend peer rating variables show some association with the leadership criterion for the EDP groups, but less association than for the 5-man MBA groups.

Discussion

The data reported here, especially as evidenced by the high associations among the small group data contrasted with the lack of association with the psychological test data, suggest a situational view of the emergence of the leadership role. Factors associated with who becomes a leader seem to be dependent on the interaction within the particular group. The participant who was seen to act the most in the group discussion was seen to be the leader. Thus, it is the interaction process in the group as opposed to personality traits existing prior to the group interaction which governs who emerges as leader. Although there is some evidence that such an emergent leader may be more likely to be rated by his classmates as desirable to have as a boss, there seems to be no association between the emergent leader and individual personality characteristics as measured by the standard psychological tests employed here.

Summary and Conclusions

The research discussed in this report was conducted to further the understanding of the process by which participants in small group interaction come to select one member as a leader. An analysis of data collected on 49 human relations case study groups suggest that one man starts by taking the lead in the interaction. The man who does interact the most, who gives the most guidance to the group, who talks the most, is seen as the group leader. Which particular participant assumes this role does not seem to be associated with the personality traits of the participants as measured by standard psychological tests. There is, however, some evidence that the leader is also selected by his classmates as "desirable to have as a boss" on peer ratings collected almost 20 months subsequent to the small group discussions.

References

- Harrell, T.W., Lee, Hans E. and Burnham, L.E. "Correlation Between Peer Ratings and Behavior Patterns", Technical Report No. 2 to Office of Naval Research on Contract Nonr-225(62), May 10, 1963.
- Harrell, T.W. and Lee, Hans E. "An Investigation of the Product Moment Inter-correlations Among Small Group Leadership Criteria", Technical Report No. 6 to Office of Naval Research on Contract Nonr-225(62), March 1964.
- Harrell, T.W. and Lee, Hans E. "Predictability of Small Group Leadership Criteria", Technical Report No. 7 to Office of Naval Research on Contract Nonr-225(62), April 1964.

Table 1

Ranks on Selected Variables for MBA Groups of Size 4

	Rank of Subjects on Sociometric Leadership Question				Rank of Subjects on Sociometric Leadership Question			
	Rank 1 (N = 19)				Rank 4 (N = 25)			
	Rank				Rank			
	1	2	3	4	1	2	3	4
Sociometric and Observational Variables								
Category A-Task	11	4	2	2	1	3	4	17
Category B-Solidarity	8	6	2	3	5	1	8	11
Category C-Individual Prom.	8	5	5	1	1	7	6	11
Total Activity	14	2	2	1	0	2	5	18
Best Ideas	11	7	0	1	1	3	6	15
Guidance	14	2	2	1	1	4	4	16
Psychological Test Variables								
SVIB Production Manager	4	4	5	6	8	6	5	6
SVIB Masculinity-Femininity	6	4	5	4	5	6	6	8
MMPI Mf	3	6	5	5	5	5	8	7
MMPI Ma	5	4	7	3	3	6	7	9
MMPI Es	5	8	3	3	4	10	5	6
G-Z Masculinity	7	2	3	7	6	9	6	4
LOQ Consideration	8	3	6	2	6	8	5	6
GSD Self Assurance	3	5	6	5	8	5	7	5
Personnel Problems + Score	3	4	6	6	5	5	6	9
TAT Achievement	4	3	6	6	4	8	5	8
TAT Power	1	8	8	2	2	7	8	8
Peer Rating Variables								
	(n = 8*)				(n = 12*)			
+ Boss	2	2	2	2	3	2	2	5
- Boss	3	2	3	0	3	1	3	5
+ Emotional Maturity	2	2	0	4	3	3	1	5
- Emotional Maturity	2	1	3	2	2	2	6	2
+ Friend	3	1	3	1	2	3	3	4
- Friend	3	2	3	0	2	0	4	6

Note.--The original scores contain ties. These were eliminated by rounding the ranks to the largest integer. This results in some distributions which do not equal the group N.

The sociometric and observational variables were collected as part of the small case discussion group participation. The leadership criterion is the rank of the participants in response to the sociometric question, "Which member of the group would you say stood out most definitely as leader in the discussion?"

The eleven psychological variables used in Tables 1, 2, and 3 were selected from a set of 42 which were examined. These eleven variables were the only ones which, in at least one of the three data sets, showed either a consistent trend of "non-decreasing" or "non-increasing" across the leadership ranks. That is, if, for each and every adjacent pair of leadership ranks, the rank on the psychological test variable for the second element of the pair was the same or larger than the rank on the first element of the pair, that variable was classified as non-decreasing. The category, non-increasing was analogously defined.

The peer rating data were obtained apart from the subjects participation in the small group discussion. Hence, they may be regarded as independent of the sociometric and observational variables. A description of the method used to obtain these ranks and exact wording of the questions employed to obtain the peer ratings appear in the text.

*Peer Rating data were not available for all subjects on some of these groups.

Table 2

Ranks on Selected Variables for MBA Groups of Size 5

	Rank of Subjects on Sociometric Leadership Question					Rank of Subjects on Sociometric Leadership Question				
	Rank 1 (N = 15)					Rank 5 (N = 16)				
	Rank					Rank				
	1	2	3	4	5	1	2	3	4	5
Sociometric and Observational Variables										
Category A-Task	7	7	1	0	0	0	0	1	3	12
Category B-Solidarity	8	2	3	0	2	0	2	3	6	5
Category C-Individual Prom.	5	2	2	3	3	1	4	2	3	6
Total Activity	7	5	3	0	0	0	0	1	4	11
Best Ideas	5	6	2	0	2	0	0	2	3	11
Guidance	6	7	1	1	0	0	0	0	2	14
Psychological Test Variables										
SVIB Production Manager	3	4	0	1	7	2	2	2	5	5
SVIB Masculinity-Femininity	5	3	3	2	2	3	4	1	6	2
MMPI Hf	3	3	3	3	3	1	6	0	2	7
MMPI Ma	2	3	1	3	6	2	2	3	4	5
MMPI Es	3	5	3	1	3	2	2	3	1	8
G-Z Masculinity	4	3	3	3	2	1	2	2	4	7
LOQ Consideration	4	4	1	5	1	4	3	2	3	4
GSD Self Assurance	1	4	0	4	6	3	3	4	3	3
Personnel Problems, + Score	3	1	5	3	3	3	1	5	2	5
TAT Achievement	4	3	3	3	2	5	1	4	1	5
TAT Power	1	2	5	4	3	3	4	4	3	2
Peer Rating Variables										
	(n = 8*)					(n = 8*)				
+ Boss	3	1	1	2	1	0	0	1	4	3
- Boss	0	0	1	4	3	2	2	0	2	2
+ Emotional Maturity	3	2	1	2	0	0	3	0	2	3
- Emotional Maturity	2	1	0	4	1	1	0	2	5	0
+ Friend	5	2	0	0	1	0	1	1	3	3
- Friend	0	2	2	3	1	0	0	3	3	2

Note.--See note to Table 1.

*Peer Rating data were not available for all subjects as some of these groups were composed of men in the MBA class of 1965. No peer ratings have been collected for this class.

Table 3

Ranks on Selected Variables for EDP Groups of Size 5

	Rank of Subjects on Sociometric Leadership Question					Rank of Subjects on Sociometric Leadership Question				
	Rank 1 (N = 13)					Rank 5 (N = 14)				
	Rank					Rank				
	1	2	3	4	5	1	2	3	4	5
Sociometric and Observational Variables										
Category A-Task	7	3	2	1	0	0	0	2	4	0
Category B-Solidarity	3	4	2	2	2	1	2	1	6	4
Category C-Individual Prom.										
Total Activity	7	1	5	0	0	0	0	2	1	11
Best Ideas	6	4	3	0	0	0	0	0	2	12
Guidance	9	3	1	0	0	0	0	1	3	10
Psychological Test Variables										
SVIB Production Manager	2	2	5	2	2	1	2	4	4	3
SVIB Masculinity-Femininity	4	2	4	0	3	0	2	3	8	1
MMPI Mf	3	1	3	2	4	3	3	2	4	2
MMPI Ma	3	3	1	4	2	3	2	2	2	7
MMPI Ec	3	4	1	3	2	4	3	3	2	2
G-Z Masculinity	2	3	2	4	2	4	3	2	2	3
LOQ Consideration	4	3	2	2	2	4	4	2	2	2
GSD Self Assurance	0	2	3	6	2	1	1	4	4	4
Personnel Problems, + Score	5	2	3	2	1	0	4	3	2	5
TAT Achievement	3	3	0	3	4	1	1	6	4	2
TAT Power	0	3	2	5	3	3	2	2	6	1
Peer Rating Variables										
+ Boss	6	3	1	2	1	0	2	4	2	6
- Boss	2	4	1	3	3	2	2	1	4	5
+ Emotional Maturity	3	4	1	2	3	1	1	3	4	5
- Emotional Maturity	3	2	3	2	3	2	0	3	2	7
+ Friend	3	5	0	2	3	2	4	1	4	3
- Friend	4	1	4	1	3	2	2	3	1	6

Note.--See note on Table 1.